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TOWNSEND and TOWNSEND and CREW LLP

By: Jesse Weller

PATENT

Attorney Docket No. 17990-1-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Roger A. Allington

Application No. 09/187,472

Filed: November 6, 1998

For: ROASTING SYSTEM

Customer No. 20350

Confirmation No. 3109

Examiner: Becker, Drew E.

Technology Center/Art Unit: 1761

TRANSMITTAL OF AMENDED SUPPLEMENTAL APPEAL BRIEF

San Francisco, CA 94111
May 3, 2006

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

As a precautionary measure, applicant requests an extension of time, if needed and if not separately attached hereto, and authorizes the Commissioner to charge the fee therefor to our deposit account in accordance with our standing authorization for such charges.

This is in response to the Office Actions dated April 4 and April 10, 2006.

As required in the April 4 Office Action, an Amended Supplemental Appeal Brief is herewith submitted which reflects the filing and entering of appellant's Amendment filed January 23, 2006. The claims appendix has been revised and now reflects the amendment to claim 111 made in the Amendment filed January 23, 2006.

Further, as suggested in the April 4 Office Action, the arguments have been rearranged, and what was considered the simplest rejection (i.e. of claims 102, 103 and 109 over Camerini Porzi and Tidland) is now addressed first. This required a rearrangement of the

arguments and lengthening the arguments addressed specifically to claims 102, 103 and 109 since in the earlier version of the brief this rejection was addressed last and to a large extent relied on earlier arguments relating to the other rejections.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 273-4730 (direct dial).

Respectfully submitted,

J. Georg Seka
Reg. No. 24,491

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: (415) 576-0200
Fax: (415) 576-0300
JGS:jhw
60758908 v1

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TOWNSEND and TOWNSEND and CREW LLP

By: [signature]

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AMENDED SUPPLEMENTAL APPELLANT'S APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37(c)

San Francisco, CA 94111
May 3, 2006

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellant hereby submits this Amended Supplemental Appellant's Brief pursuant to 37 C.F.R. § 41.37(c).

This Amended Supplemental Appeal Brief is being submitted in response to the Office Action dated April 4, 2006. Authorization to charge the fee for filing this brief was previously given. The Commissioner is authorized to charge any further fee which may be due to Deposit Account 20-1430 of the undersigned.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest of the subject patent application is Frederick G. Perkins, dba Perkins & Associates.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

III. STATUS OF CLAIMS

Claims 82-111 are pending. Claims 1-81 are cancelled. Claims 82-111 stand rejected. Appellant appeals from the rejection of claims 82-111.

IV. STATUS OF AMENDMENTS

A final rejection was mailed June 10, 2000. A response thereto was filed on March 30, 2000. Based upon a telephone interview with Examiner Becker and the response filed on March 30, 2000, the finality of the rejection was retracted.

On April 11, 2000, a non-final office action was mailed. A response thereto was mailed July 20, 2000 and entered.

On October 11, 2000, a non-final office action was mailed. A response thereto was mailed on February 9, 2001 and entered.

A final rejection was mailed on April 24, 2001. An amendment and request for continued examination was filed in response thereto. Thus, the amendment was entered.

A non-final office action was mailed on August 20, 2001. A response thereto was mailed on December 20, 2001 and entered.

A final office action was mailed on April 19, 2002. The application was unintentionally abandoned for failure to respond to this final office action. On February 11, 2004, a Petition to Revive, along with a Request for Continued Examination and an amendment, were filed. The Petition was granted, thereby reviving the present application, and the amendment was entered.

An office action was mailed on June 11, 2004. A Notice of Appeal was filed on September 17, 2004 in response thereto.

An amendment was mailed on January 18, 2005 to address a Section 112 rejection. The amendment was entered and the rejection was overcome.

An office action was mailed July 22, 2005.

An amendment in response to the Office Action of July 22, 2005 was filed January 23, 2006 and has been entered as acknowledged in the Office Action of April 10, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Systems and methods are disclosed for roasting coffee beans. In the method of claim 82, the method includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, storing the first parameter, and roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans. Application, page 5, line 31-page 6, line 18; page 7, lines 31-34. The method further includes filtering substantially all pollutants from the heated air following the roasting step. Thereafter, the method includes reheating and circulating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting, and cooling a minor portion of the filtered air to no more than 115°F and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the major portion of the air for further use during roasting. Application, page 9, lines 4-14; page 3, lines 9-20. The method further includes monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting and upon detecting a match between the first and second parameters, discontinuing the roasting step. Application, page 7, line 34-page 8, line 4. Finally, the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress. Application, page 17, line 33-page 23, line 36.

In the embodiment of claim 90, a method of automatically roasting coffee beans to attain a predetermined desired coffee aroma is disclosed. The method includes roasting a sample of the beans to a degree at which coffee made with the beans exhibits the desired aroma, sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting, and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample, storing the first parameter, and thereafter roasting a batch of more than one pound of fresh beans by flowing heated air over the fresh beans. Application, page 5, line 31-page 6, line 18; page 7, lines 31-34. The method also includes cleaning the heated air after it has passed the fresh beans so that the air is substantially

pollutant-free, cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans, discharging the cooled, pollutant-free air into a substantially closed room frequented by humans, and monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans. Application, page 9, lines 4-14. The method also includes comparing the first and second parameters during roasting of the fresh beans and terminating the roasting of the fresh beans when the first and second parameters match. Application, page 7, line 34-page 8, line 4. The steps of roasting, cleaning, cooling and discharging are simultaneously and continuously performed while roasting is in progress. Application, page 17, line 33-page 23, line 36.

In the embodiment of claim 91, a method for uniformly roasting coffee beans at a plurality of geographically separate locations is disclosed. The method includes placing a roasting machine at each location inside an enclosed room frequented by humans, and equipping each roasting machine with a roasting container for holding fresh beans while the beans are being roasted, a hot air supply for heating the fresh beans to a roasting temperature, and an air removal system for directing used air away from the container. Application, page 8, line19-page 31. The method also includes removing from the used air substantially all debris, smoke, oil and other pollutants in a filtration system. After the step of removing, cooling the used air, the at least a portion of the cooled air is discharged into the enclosed room while continuing heating the fresh beans. Application, page 9, lines 15-31. The method also includes recirculating a remaining portion of the cooled air to the hot air supply, directing a laser light beam of a frequency in the range of between about 600-800 nm onto the beans in the container during roasting, generating an output signal from laser light reflected by the beans which is a function of the observed darkness of the beans, and providing each roasting machine with a computer including a memory; feeding the output signal to the computer. Application, page 4, lines 9-14. At a central control station, an optimal darkness for each bean type is determined that will be roasted by the roasting machines, and a control signal is generated which reflects the optimal darkness of each roasted bean type. The method also includes downloading the control signal from the central control station to the computer of each roasting machine, and during roasting at any given roasting machine, comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, generating a

command signal. The command signal is used to terminate the roasting of the beans in the container. Application, page 9, line 32-page 10, line 7. The steps of removing, cooling, discharging and recirculating are simultaneously and continuously performed while roasting is in progress. Application, page 17, line 33-page 23, line 36.

In the embodiment of claim 94, another method of roasting coffee beans is disclosed. The method includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, and storing the first parameter. Application, page 5, line 31-page 6, line 18; page 7, lines 31-34. The method also includes roasting a batch of more than one pound of fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans, and while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system. Application, page 9, lines 4-14. The method also includes monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting, and, upon detecting a match between the first and second parameters, discontinuing the roasting step. Application, page 7, line 34-page 8, line 4.

In the embodiment of claim 102, yet another method of roasting coffee beans is disclosed. The method includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma by determining a first parameter which comprises at least one of a color and a degree of darkness which the coffee beans must have to yield the desired aroma, generating at least one second parameter which reflects a predetermined development of the first parameter during a roasting of the coffee beans, and storing the parameters. Application, page 5, line 31-page 6, line 18; page 7, line 31-page 8, line 4. The method also includes roasting fresh coffee beans at a roasting temperature, monitoring the first parameter during roasting and discontinuing the roasting step when the coffee beans reach the first parameter, monitoring the at least one second parameter during roasting, and adjusting the roasting step when the second parameter indicates that a deviation from the predetermined development of the first parameter

occurred to thereby reestablish the predetermined development of the second parameter. Application, page 7, line 34-page 8, line 4.

In the embodiment of claim 110, a method of roasting coffee beans in a supermarket located inside a building is disclosed. The method includes establishing the degree to which the coffee beans must be roasted to attain a desired aroma, generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma, storing the first parameter, and roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans. Application, page 5, line 31-page 6, line 18; page 7, lines 31-34. While flowing heated air over the fresh coffee beans, substantially all pollutants from the air downstream of the fresh coffee beans being heated is removed, the air downstream of the fresh coffee beans is cooled to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, the cooled air is exhausted into the supermarket. Application, page 9, lines 4-14. The method also includes monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting, and, upon detecting a match between the first and second parameters, discontinuing the roasting step. Application, page 7, line 34-page 8, line 4.

In the embodiment of claim 111, a method of automatically roasting beans to attain a predetermined, desired coffee aroma is disclosed. The method includes roasting a sample of the beans inside a supermarket to a degree at which coffee made with the beans exhibits the desired aroma, sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample, storing the first parameter, and thereafter roasting fresh beans by flowing heated air over the fresh beans. Application, page 5, line 31-page 6, line 18; page 7, lines 31-34. The method also includes cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free, cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans, discharging the cooled, pollutant-free, room temperature air into the supermarket, monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans, comparing the first and second parameters during roasting of the fresh beans,

and terminating the roasting of the fresh beans when the first and second parameters match. Application, page 9, lines 4-14; page 7, line 34-page 8, line 4.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 102-103 and 109 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi (U.S. Patent No. 4,849,625) in view of Tidland (U.S. Patent No. 5,958,494).

Claims 82-85, 108 and 110 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Tidland, and further in view of de Vries (U.S. Patent No. 4,284,609).

Claims 94-97 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries and Tidland.

Claims 86-87 and 98-99 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Tidland and de Vries, as applied above, and further in view of Grubbs et al. (U.S. Patent No. 4,110,485).

Claims 104-105 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of Tidland, as applied above, and further in view of Grubbs et al.

Claims 88-89 and 106-107 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries and Tidland, as applied above, and further in view of Gell Jr. (U.S. Patent No. 4,494,314).

Claims 90 and 111 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0040823 in view of Tidland and de Vries.

Claim 91 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of de Vries, Tidland and Grubbs et al., as applied above, and further in view of Scher et al. (U.S. Patent No. 5,062,066).

Claim 92 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of Tidland, Grubbs et al., Scher et al., and de Vries as applied above, and further in view of Helbling (U.S. Patent No. 5,158,793).

Claim 93 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi in view of Tidland, Grubbs et al., Scher et al., and de Vries as applied above, and further in view of Gell Jr.

Claims 100-101 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Camerini Porzi, in view of de Vries, Tidland and Grubbs et al., as applied above, and further in view of Gell Jr.

VII. ARGUMENT

To establish a prima facie case of obviousness, three basic criteria must be met. First, the Examiner must identify prior art declaring all the salient elements recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Third, there must be a reasonable expectation that, once combined, the elements will work as expected. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In Re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991). For the reasons discussed in the following, no prima facie case of obviousness was made in regard to any of the claims on appeal.

A. Claims 102-103 and 109 are not obvious over Camerini Porzi in view of Tidland.

1. Claim 102

Claim 102 is directed to a coffee roasting method and requires, amongst others, determining a first parameter to attain a desired aroma, generating a second parameter which reflects the predetermined <u>development</u> of the first parameter, discontinuing the roasting step when the coffee beans reach the first parameter, and adjusting the roasting step when the second parameter indicates that a deviation in the predetermined <u>development</u> of the first parameter occurred.

Thus, claim 102 covers the monitoring of the roasting and terminating it when the first parameter has been met. In addition, the claim requires adjustment of the roasting step when the second parameter indicates that the predetermined <u>development</u> of the first parameter occurred.

In the context of claim 102, the "development" of the first parameter (i.e. either the color or degree of darkness of the beans) is not the same as the color or darkness, as is disclosed in this application, which states:

> A very important advantage of the present invention is that it permits one to replicate roasting results by using the darkness (or color) development time line for the beans being roasted ... to thereby precisely replicate the development and final taste and aroma profile of the beans. .... How that darkness is attained also determines the final profile of the roasted product, e.g. the roasted beans, because the same darkness (or color) can be attained over a wide range of roasting times .... The profile of the roasted beans will vary greatly based on how the ultimate color was attained. .... Thus, the key to consistency in the profile is to roast the beans in the same way, time after time. This is accomplished with the reflectometer (or spectrometer) and maintaining the preestablished darkness (or color) development time line and parameters. (Application, page 5, line 31-page 6, line 16, underlining added)

As has been acknowledged by the Examiner, Camerini Porzi teaches a method of roasting coffee beans with a photo-emitter, a photo-detector, a colorimeter which produces an output signal equivalent to a desired color, and a comparator which ends the roasting when the signal from the colorimeter and the photo-detector are equal (column 4, lines 22-26 of Camerini Porzi). There is no disclosure or suggestion, indeed there is no mention, in Camerini Porzi to adjust the roasting step in order to reestablish the predetermined development of the second parameter, as contrasted to terminating the roasting step outright when a color match between the outputs of the photo-detector 2 and the colorimeter 7 of Camerini Porzi takes place.

The same applies to Tidland. It is not concerned with and does not discuss under what condition a coffee bean roast should be terminated. It therefore also contains no mention of monitoring the development of the roast and adjusting the roasting step if the actual development of the roasting step deviates from the predetermined development of the roast.

Since Camerini Porzi and Tidland, alone or in combination, fail to suggest "adjusting the roasting step when the second parameter indicates that a deviation from the predetermined development of the first parameter occurred to thereby reestablish the predetermined development of the second parameter", as is recited in claim 102, claim 102 is not obvious over these references.

2. Claim 103

Claim 103 depends from claim 102 and requires that the second parameter comprises at least one of the roasting temperature and the atmospheric pressure. Neither Camerini Porzi nor Tidland disclose that the second parameter is either the roasting temperature

or the atmospheric pressure. Accordingly, claim 103 is not obvious over Camerini Porzi and Tidland.

3. Claim 109

Claim 109 depends from claim 102 and requires filtering out pollutants from the heated air following roasting, then reheating and recirculating a major portion of the pollutant-free air over fresh coffee beans to continue roasting, and discharging a minor portion of the filtered air.

The rejection of claims 102, 103 and 109 recognizes that Camerini Porzi does not teach the removal of pollutants from the exhaust air, recirculating a major portion of the air and discharging a minor portion of the air. However, Tidland was viewed as providing such disclosure.

Tidland discloses an indoor coffee roasting machine that seeks to filter and clean the air used to heat the beans. The "reheated air is then recirculated back into the roasting chamber" (column 2, lines 27-28). This "[c]ontinuously filtering the recirculated air allows the roasting system to be placed in a room without requiring outside ventilation and without producing objectionable odors" (column 2, lines 39-42). However, during roasting no air is cooled, and no cooled, cleaned air is discharged to the surrounding room.

As is best illustrated in Fig. 4 of Tidland, hot, polluted air from the roasting drum flows into a cyclone (60) for the removal of particulates and from there via a pipe (61) along dashed line (5) past open dampers (20), through filters (72, 74, 76, 78), past heating elements (54), and via fan (30) and duct (32) (see Fig. 1) back to the roasting chamber (36).

Tidland notes that the heating elements (54) heat the air to a sufficient temperature to begin roasting the green coffee beans (column 5, lines 30-31) and notes that "as the hot air expands, some of the excess air in the roasting system 12 escapes through the filters 17 and 18 to the outside environment" (column 5, lines 42-46). Column 5, lines 19-53 and the drawings, particular Fig. 4, teach that the expanding "excess air in the roasting system 12" (column 5, line 44) refers to air in the system during the startup phase. During the actual roasting process, dampers (20) are open, and contaminated, still-hot air (though not sufficiently hot for roasting) flows through filters (72-78) and past heater (54) back into the roasting chamber. If the air coming from the roasting chamber and cyclone (60) were permitted to exit past filters (17, 18), the exiting air would be both hot and unfiltered, i.e. heavily polluted. Filters

(17) and (18) are only casually mentioned as being a coarse and an electronic filter, respectively, without further describing their characteristics or functionality. In contrast, the characteristics and requirements of filters (72-78), which are downstream of dampers (20) and the filters (17, 18), are discussed in detail in column 4, lines 28-40, and they include, in addition to a coarse fiberglass filter similar to filter (17), a high efficiency electronic filter for removing micron-sized pollution particulates and a carbon filter to remove odors. These filters clean the used air from the roasting chamber and remove odors before the air is recirculated to the roasting chamber.

If just a portion of the recirculating, used air were permitted to escape to the exterior of the roaster past filters (17, 18), the air would be hot (typically in the vicinity of several hundred degrees F) and full of pollutants. If such a machine were to operate in a closed room frequented by humans, the humans would suffocate in short order.

Thus, Tidland teaches exactly what it says, namely to recirculate the filtered and reheated air back into the roasting chamber (column 2, lines 27-28), and no part of the air, except expanding air during startup is permitted to escape.

One of ordinary skill in the art reading Tidland fairly and as a whole would not consider Tidland to teach to discharge a minor portion of the filtered air, as recited in claim 109, prior to reheating and recirculating the major portion of the filtered air during roasting.

Accordingly, claim 109 is not obvious over Camerini Porzi in view of Tidland.

B. Claims 94-97 are not obvious in view of Camerini Porzi, de Vries and Tidland.

1. Claim 94

As will become apparent herein, it is respectfully submitted that all of the elements recited in Appellant's claims are not taught or even suggested in Camerini Porzi, Tidland and de Vries. Specifically, neither these references, nor any of the other cited references, disclose at least a portion of the exhaust air being discharged <u>into a room where people may be present</u>. Furthermore, none of the references disclose trying to achieve a desired aroma, placing coffee roasters at multiple geographically separate locations or even in a supermarket. Therefore, even when the disclosures of the cited references are combined, one skilled in the art does not arrive at Appellant's invention because key elements of the claimed invention are missing.

Furthermore, there is no teaching, suggestion or motivation in any of the cited references to modify them in a way that would allow them to be combined to arrive at Appellant's invention. None of them are interested in providing coffee roasters within a building where at least a portion of the exhaust air is discharged into a room where people may be present. None of them are interested in achieving a desired aroma. None of them are interested in placing coffee roasters at multiple geographically separate locations or supermarkets.

Indeed, all of the references relied upon by the Examiner deal with coffee roasting or air purification on a large scale and purification of the exhaust gases into a large open area as opposed to a smaller scaled operation that exhausts the gases or air into a closed environment frequented by humans. Camerini Porzi has no disclosure concerning the manner in which polluted air is processed and discharged because Camerini Porzi is not concerned with the constituents of the exhaust, how the exhaust is processed, and how it is discharged. In the only section wherein de Vries discusses using his system with coffee roasting, he points out that the emissions may contain fumes and odors of such intensity that they could be quite unpleasant. de Vries then goes on to teach that many of the fumes and odor-producing compounds are soluble in water and are at least partially removed in the humidification and condensation steps of his process. He discloses that additional odor removal may be obtained by the incorporation of a reactive chemical such as sodium hypochlorite in the water spray used for humidification. (See column 9, lines 44-54). de Vries does not disclose or even suggest cleaning exhaust air and exhausting it into a room frequented by humans. Thus, there is no teaching or motivation here to entice one skilled in the art to use the teachings of de Vries on such a large scale to combine with a coffee roaster <u>that is placed within a confined area and exhausts air into a confined area frequented by humans</u>.

Finally, none of the references disclose or suggest a method of roasting to achieve a desired aroma.

Tidland was cited for teaching a method of roasting coffee beans including exhausting reconditioned air into the surrounding room of a retail store where the roaster is placed, reheating and recirculating a major portion of the air while discharging a minor portion of the air, and monitoring a second parameter. It is respectfully submitted that the Examiner is mistaken.

As was discussed above in connection with claim 102, Tidland discloses an indoor coffee roasting machine that seeks to filter and clean the air used to heat the beans. However, the "reheated air is then recirculated back into the roasting chamber" (column 2, lines 27-28). This "[c]ontinuously filtering the recirculated air allows the roasting system to be placed in a room without requiring outside ventilation and without producing objectionable odors" (column 2, lines 39-42). However, during roasting no air is cooled, and no cooled, cleaned air is discharged to the surrounding room.

As is best illustrated in Fig. 4 of Tidland, hot, polluted air from the roasting drum flows into a cyclone (60) for the removal of particulates and from there via a pipe (61) along dashed line (5) past open dampers (20), through filters (72, 74, 76, 78), past heating elements (54), and via fan (30) and duct (32) (see Fig. 1) back to the roasting chamber (36).

Tidland notes that the heating elements (54) heat the air to a sufficient temperature to begin roasting the green coffee beans (column 5, lines 30-31) and notes that "as the hot air expands, some of the excess air in the roasting system 12 escapes through the filters 17 and 18 to the outside environment" (column 5, lines 42-46). In the context of the disclosure in column 5, lines 19-53 and the drawings, particular Fig. 4, it is clear that the expanding "excess air in the roasting system 12" (column 5, line 44) refers to air in the system during the startup phase. During the actual roasting process, dampers (20) are open, and contaminated, still-hot air (though not sufficiently hot for roasting) flows through filters (72-78) and past heater (54) back into the roasting chamber. If the air coming from the roasting chamber and cyclone (60) were permitted to exit past filters (17, 18), the exiting air would be both hot and unfiltered, i.e. heavily polluted. Filters (17) and (18) are only casually mentioned as being a coarse and an electronic filter, respectively, without further describing their characteristics or functionality. In contrast, the characteristics and requirements of filters (72-78), which are downstream of dampers (20) and the filters (17, 18), are discussed in detail in column 4, lines 28-40, and they include, in addition to a coarse fiberglass filter similar to filter (17), a high efficiency electronic filter for removing micron-sized pollution particulates and a carbon filter to remove odors. These filters clean the used air from the roasting chamber and remove odors before the air is recirculated to the roasting chamber.

If just a portion of the recirculating, used air were permitted to escape to the exterior of the roaster past filters (17, 18), the air would be hot (typically in the vicinity of

several hundred degrees F) and full of pollutants. If such a machine were to operate in a closed room frequented by humans, the humans would suffocate in short order.

Thus, Tidland teaches exactly what it says, namely to recirculate the filtered and reheated air back into the roasting chamber (column 2, lines 27-28), and no part of the air, except expanding air during startup, and possibly some air after conclusion of the roasting, is permitted to escape.

For at least the above reasons, claim 94, which requires, among other things, "while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, <u>exhausting the cooled air directly into a room of a building</u>", is not obvious over Camerini Porzi, Tidland and de Vries.

C. Claims 82-85, 96-97, 108 and 110 are not obvious in view of Camerini Porzi, de Vries and Tidland.

1. Claim 82

As noted above, none of the references disclose discharging at least a portion of exhaust air into an interior of a building frequented by humans, while reheating and recirculating the relatively major portion of the exhaust portion of the exhaust air for further use during roasting. Camerini Porzi has no disclosure concerning the manner in which polluted air is processed and discharged because Camerini Porzi is not concerned with the constituents of the exhaust, how the exhaust is processed, and how it is discharged. While the Examiner relies on de Vries for teaching a method of cleaning exhaust air from a coffee roaster by removing pollutants from the exhaust air and cooling the exhaust air to 100° F, nowhere does de Vries disclose discharging any of the exhaust air <u>into an area frequented by humans</u>. The Examiner goes on to admit this and then relies on Tidland. However, as discussed above, Tidland discloses an indoor coffee roasting machine that seeks to filter and clean the air used to heat the beans, but this "reheated air is then recirculated back into the roasting chamber" (column 2, lines 27-28). This "[c]ontinuously filtering the recirculated air allows the roasting system to be placed in a room without requiring outside ventilation and without producing objectionable odors" (column 2, lines 39-42), but during roasting no air is cooled, and no cooled, cleaned air is discharged to the surrounding room.

Thus, for at least all of the above reasons, it is respectfully submitted that Claim 82, which requires, among other things, "filtering substantially all pollutants from the heated air following the roasting step; thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting; cooling a minor portion of the filtered air to no more than about 115° F and <u>discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the relatively major portion of the air for further use during roasting</u>", is not obvious over Camerini Porzi, de Vries and Tidland.

Claim 82 further requires that the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress. None of the prior art references applied against claim 82 teach or in any form suggest this. Thus, for this additional reason, claim 82 is not obvious over Camerini Porzi, de Vries and Tidland.

2. Claim 110

Claim 110 has substantially the same limitations as claim 82, although it employs somewhat different terminology. Thus, claim 110 is not obvious over Camerini Porzi, de Vries and Tidland for the same reasons why claim 82 is not obvious over these references.

D. Claims 90 and 111 are not obvious in view of EP 0040823 in view of Tidland and de Vries.

1. Claim 90

As the Examiner admits, EP 0040823 does not make up for the lack of disclosure in the other cited references with regard to cleaning the exhaust air. It also does not disclose or even suggest discharging cooled, pollutant-free air into a substantially closed room frequented by humans. As demonstrated above, neither does de Vries or Tidland.

Therefore, for at least all of the above reasons, claim 90, which requires, among other things, "cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free; cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans; discharging the cooled, pollutant-free air into a substantially closed room frequented by humans", is not obvious over EP '823, Tidland and de Vries.

E. Claim 91 is not obvious over Camerini Porzi, de Vries, Tidland and Grubbs et al., and further in view of Scher et al. (U.S. Patent No. 5,062,066).

1. Claim 91

As the Examiner admits, Scher et al. does not make up for the lack of disclosure in the other cited references with regard to cleaning the exhaust air. It also does not disclose or even suggest discharging cooled, pollutant-free air into a substantially closed room frequented by humans. As noted above, neither do any of the other cited references. Scher et al. does not suggest or provide any motivation to uniformly roast coffee beans at a plurality of geographically separate locations by placing a roasting machine at each location inside an enclosed room frequented by humans and removing from the used air substantially all debris, smoke, oil and other pollutants in a filtration system; after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans.

Thus, for at least all of the above reasons, claim 91, which is directed to "a method for uniformly roasting coffee beans at a plurality of geographically separate locations", and which requires, among other things, "placing a roasting machine at each location inside an enclosed room frequented by humans" and "removing from the used air substantially all debris, smoke, oil, and other pollutants in a filtration system; after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans", is not obvious over Camerini Porzi, de Vries, Tidland, Grubbs and Scher.

VIII. CONCLUSION

It is apparent that several aspects of Appellant's invention recited in the appealed claims are not disclosed or suggested by the cited references, and the references cannot be combined to arrive at Appellant's invention. Furthermore, none of the cited references provide motivation to one skilled in the art to modify their teachings to arrive at Appellant's invention as recited in the claims. Accordingly, the prior art applied against the appealed claims does not render the claims obvious.

Appellant therefore respectfully requests that the obviousness rejections as to all pending claims be reversed.

Respectfully submitted,

J. Georg Seka
Reg. No. 24,491

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300
Attachments
JGS:jhw
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IX. CLAIM APPENDIX

Claims 1-81 (canceled)

Claim 82 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

filtering substantially all pollutants from the heated air following the roasting step;

thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue roasting;

cooling a minor portion of the filtered air to no more than about 115° F and discharging the cooled minor portion of the air into an interior of a building frequented by humans while reheating and recirculating the major portion of the air for further use during roasting;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting;

upon detecting a match between the first and second parameters, discontinuing the roasting step; and

wherein the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress.

Claim 83 (previously presented): A method according to claim 82 wherein the first parameter is one of the color and darkness of the coffee beans and the second parameter is one of the color and darkness of the fresh coffee beans during roasting.

Claim 84 (previously presented): A method according to claim 82 wherein the steps of roasting, filtering, reheating, recirculating, cooling and discharging are simultaneously and continuously performed while roasting is in progress;

including adjusting the step of discontinuing the roasting of the fresh coffee beans as a function of at least one of the roasting temperature and atmospheric pressure.

Claim 85 (previously presented): A method according to claim 82 wherein the step of monitoring comprises making a spectral analysis of the fresh coffee beans during the roasting step.

Claim 86 (previously presented): A method according to claim 85 wherein the step of making a spectral analysis comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 87 (previously presented): A method according to claim 86 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 88 (previously presented): A method according to claim 82 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when there is a match between the first parameter for the selected coffee bean type and the second parameter.

Claim 89 (previously presented): A method according to claim 88 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the second parameter matches the selected one of the first parameters.

Claim 90 (previously presented): A method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma, the method comprising the steps of:

roasting a sample of the beans to a degree at which coffee made with the beans exhibits the desired aroma;

sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample;

storing the first parameter; thereafter roasting a batch of more than one pound of fresh beans by flowing heated air over the fresh beans;

cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free;

cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans;

discharging the cooled, pollutant-free air into a substantially closed room frequented by humans;

monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans;

comparing the first and second parameters during roasting of the fresh beans;

terminating the roasting of the fresh beans when the first and second parameters match; and

wherein the steps of roasting, cleaning, cooling and discharging are simultaneously and continuously performed while roasting is in progress.

Claim 91 (previously presented): A method for uniformly roasting coffee beans at a plurality of geographically separate locations, the method comprising:

placing a roasting machine at each location inside an enclosed room frequented by humans;

equipping each roasting machine with a roasting container for holding fresh beans while the beans are being roasted, a hot air supply for heating the fresh beans to a roasting temperature, and an air removal system for directing used air away from the container;

removing from the used air substantially all debris, smoke, oil, and other pollutants in a filtration system;

after the step of removing, cooling the used air, discharging the at least a portion of the cooled air into the enclosed room while continuing heating the fresh beans;

recirculating a remaining portion of the cooled air to the hot air supply;

directing a laser light beam of a frequency in the range of between about 600-800 nm onto the beans in the container during roasting;

generating an output signal from laser light reflected by the beans which is a function of the observed darkness of the beans;

providing each roasting machine with a computer including a memory; feeding the output signal to the computer;

at a central control station determining an optimal darkness for each bean type that will be roasted by the roasting machines;

at the control station generating a control signal which reflects the optimal darkness of each roasted bean type;

downloading the control signal from the central control station to the computer of each roasting machine;

during roasting at any given roasting machine comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, generating a command signal; and

using the command signal to terminate the roasting of the beans in the container;

wherein the steps of removing, cooling, discharging and recirculating are simultaneously and continuously performed while roasting is in progress.

Claim 92 (previously presented): A method according to claim 91 further comprising the steps of:

keeping an inventory of fresh beans proximate each roasting machine;

monitoring the size of the fresh bean inventory;

generating a low-inventory signal when the fresh bean inventory drops below a predetermined level;

transmitting the inventory control signal to the central control station; and

transferring additional fresh beans to the roasting machine which generated the low-inventory signal upon receipt thereof at the control station.

Claim 93 (previously presented): A method according to claim 91 wherein each roasting machine has a plurality of different fresh bean types which can be roasted and wherein the method further comprises the steps of:

generating an optimal darkness signal for each bean type at the control station; downloading each darkness signal to the computers of the roasting machines of the system; and,

during roasting at any given one of the roasting machines, comparing the output signal from the instrument with the stored darkness signal which corresponds to the bean type being roasted in the container.

Claim 94 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting a batch of more than one pound of fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

while flowing heated air over the fresh coffee beans, removing substantially all pollutants from the air downstream of the fresh coffee beans being heated in a filtration system, cooling at least a portion of the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air directly into a room of a building without recirculating any part of the cooled air into the filtration system;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting; and,

upon detecting a match between the first and second parameters, discontinuing the roasting step.

Claim 95 (previously presented): A method according to claim 94 wherein the first parameter is one of the color and darkness of the coffee beans and the second parameter is one of the color and darkness of the fresh coffee beans during the roasting step.

Claim 96 (previously presented): A method according to claim 94 including adjusting the step of discontinuing the roasting of the fresh coffee beans as a function of at least one of the roasting temperature and atmospheric pressure.

Claim 97 (previously presented): A method according to claim 94 wherein the step of monitoring comprises making a spectral analysis of the fresh coffee beans during the roasting step.

Claim 98 (previously presented): A method according to claim 97 wherein the step of making a spectral analysis comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 99 (previously presented): A method according to claim 98 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 100 (previously presented): A method according to claim 99 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when there is a match between the first parameter for the selected coffee bean type and the second parameter.

Claim 101 (previously presented): A method according to claim 100 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the second parameter matches the selected one of the first parameters.

Claim 102 (previously presented): A method of roasting coffee beans comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma by determining a first parameter which comprises at least one of a color and a degree of darkness which the coffee beans must have to yield the desired aroma;

generating at least one second parameter which reflects a predetermined development of the first parameter during a roasting of the coffee beans;

storing the parameters;

roasting fresh coffee beans at a roasting temperature;

monitoring the first parameter during roasting and discontinuing the roasting step when the coffee beans reaches the first parameter;

monitoring the at least one second parameter during roasting; and

adjusting the roasting step when the second parameter indicates that a deviation from the predetermined development of the first parameter occurred to thereby reestablish the predetermined development of the second parameter.

Claim 103 (previously presented): A method according to claim 102 wherein the second parameter comprises at least one of the roasting temperature and atmospheric pressure.

Claim 104 (previously presented): A method according to claim 102 wherein the step of monitoring the first parameter comprises directing a laser beam onto the fresh coffee beans during the roasting step.

Claim 105 (previously presented): A method according to claim 104 wherein the laser beam has a wavelength in the range of between about 600 to 800 nm.

Claim 106 (previously presented): A method according to claim 102 further comprising the steps of providing a multiplicity of different coffee bean types, establishing and storing the first parameter for each coffee bean type, prior to the roasting step selecting one of the multiplicity of coffee bean types for roasting; and wherein the step of discontinuing is carried out when the coffee beans reach the first parameter for the selected coffee bean type.

Claim 107 (previously presented): A method according to claim 106 further comprising the step of establishing a plurality of first parameters for at least one of the multiplicity of coffee bean types, each of which defines a different degree to which the coffee

beans must be roasted to attain correspondingly differing desired aromas; prior to the roasting step selecting one of the plurality of first parameters for the at least one coffee bean type; and wherein the step of discontinuing is performed when the coffee beans reach the selected one of the first parameters.

Claim 108 (previously presented): A method according to claim 102 wherein the roasting step comprises flowing heated air over the fresh coffee beans, and including the steps of removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter exhausting the cooled air into an enclosed room of a building.

Claim 109 (previously presented): A method according to claim 102 wherein the step of roasting includes flowing heated air over the fresh coffee beans, and including the steps of filtering substantially all pollutants from the heated air following the roasting step, thereafter reheating and recirculating a major portion of the substantially pollutant-free air over the fresh coffee beans to thereby continue the roasting step; and discharging a minor portion of the filtered air prior to reheating and recirculating the major portion of the air.

Claim 110 (previously presented): A method of roasting coffee beans in a supermarket located inside a building, the method comprising the steps of:

establishing the degree to which the coffee beans must be roasted to attain a desired aroma;

generating a measurable first parameter which is indicative that the coffee beans have been sufficiently roasted to yield the desired aroma;

storing the first parameter;

roasting fresh coffee beans at a roasting temperature by flowing heated air over the fresh coffee beans;

while flowing heated air over the fresh coffee beans removing substantially all pollutants from the air downstream of the fresh coffee beans being heated, cooling the air downstream of the fresh coffee beans to no more than about 115° F, and thereafter, while continuing to flow heated air over the fresh coffee beans, exhausting the cooled air into the supermarket;

monitoring a second parameter which is compatible with the first parameter and is generated by the fresh coffee beans during roasting; and,

upon detecting a match between the first and second parameters, discontinuing the roasting step.

Claim 111 (previously presented): A method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma, the method comprising the steps of:

roasting a sample of the beans inside a supermarket to a degree at which coffee made with the beans exhibits the desired aroma;

sensing one of a color and a darkness of the beans when the beans have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample;

storing the first parameter;

thereafter roasting fresh beans by flowing heated air over the fresh beans;

cleaning the heated air after the heated air has passed the fresh beans so that the air is substantially pollutant-free;

cooling the air after the air has passed the fresh beans to no more than about 115° F while continuing flowing the heated air over the fresh beans;

discharging the cooled, pollutant-free, room temperature air into the supermarket;

monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans; and

comparing the first and second parameters during roasting of the fresh beans; and terminating the roasting of the fresh beans when the first and second parameters match.

X. EVIDENCE APPENDIX - NON-APPLICABLE

XI. RELATED PROCEEDINGS APPENDIX - NON-APPLICABLE

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